

Clean Version Of Amended Claims

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C1  
1. (twice amended) An interconnect for testing a semiconductor component having a bumped contact comprising:

a substrate; and

a contact on the substrate configured to electrically engage the bumped contact, the contact comprising a recess in the substrate having a size approximately equal to that of the bumped contact, and a plurality of flexible metal leads cantilevered over the recess configured to support the bumped contact within the recess and to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped contact, each metal lead having a cantilever length, a width, a thickness and a modulus of elasticity selected to provide a desired spring constant.

2. (twice amended) An interconnect for testing a semiconductor component having a bumped contact comprising:

a substrate; and

a contact on the substrate configured to electrically engage the bumped contact, the contact comprising a recess in the substrate having a size approximately equal to that of the bumped contact, a plurality of flexible leads cantilevered over the recess configured to support the bumped contact within the recess and to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped contact, each lead having a selected spring constant and at least one projection configured to penetrate the bumped contact, and a connecting segment substantially encircling a periphery of the recess configured to electrically connect the leads to one another.

5. (twice amended) The interconnect of claim 2 further comprising a conductive via in the substrate in electrical communication with the connecting segment.

6. (twice amended) An interconnect for testing a semiconductor component having a bumped contact comprising:

a substrate;

a recess in the substrate; and

a plurality of flexible metal leads on the substrate cantilevered over the recess configured to electrically engage the bumped contact and to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped contact, each metal lead having a cantilever length, a width, a thickness and a modulus of elasticity selected to provide a desired spring constant, and a shape that substantially matches a topography of the bumped contact.

7. (twice amended) The interconnect of claim 6 wherein each lead includes a projection configured to penetrate the bumped contact.

8. (twice amended) An interconnect for testing a semiconductor component having a bumped contact comprising:

a substrate;

a recess in the substrate;

a plurality of flexible leads on the substrate cantilevered over the recess configured to electrically engage the bumped contact and to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped contact, each lead having a cantilever length, a width, a thickness and a modulus of elasticity selected to provide a desired spring

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constant, and a shape that substantially matches a topography of the bumped contact; and

a connecting segment on the substrate electrically connecting the leads to one another.

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9. (twice amended) The interconnect of claim 8 further comprising a conductive via in the substrate in electrical communication with the connecting segment.

10. (twice amended) The interconnect of claim 9 further comprising a contact on the substrate in electrical communication with the conductive via.

11. (twice amended) The interconnect of claim 8 wherein the recess has four sides and the plurality of leads comprise four leads on the four sides.

12. (twice amended) An interconnect for testing a semiconductor component having a bumped contact comprising:

a substrate;

a recess in the substrate;

a plurality of leads on the substrate cantilevered over the recess and configured to move and to electrically engage the bumped contact within the recess, each lead having a radius of curvature substantially equal to a radius of the bumped contact; and

a segment on the substrate electrically connecting the leads.

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17. (twice amended) The interconnect of claim 12 wherein each lead has a cantilevered length, a width, a thickness and a modulus of elasticity selected to provide a desired spring constant.

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18. (twice amended) The interconnect of claim 12 further comprising a conductive via in the substrate in electrical communication with the segment.

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25. (twice amended) A system for testing a semiconductor component having a bumped contact comprising:  
a carrier for retaining the semiconductor component;  
an interconnect on the carrier comprising a substrate,  
a recess in the substrate having a size approximately equal to that of the bumped contact, a plurality of leads cantilevered over the recess configured to electrically engage the bumped contact and to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped contact, and a segment on the substrate electrically connecting the leads; and  
a test circuitry in electrical communication with the leads configured to apply test signals to the component.

26. (twice amended) The system of claim 25 wherein each lead has a radius of curvature substantially equal to a radius of the bumped contact.

27. (twice amended) The system of claim 25 further comprising a conductive via in the substrate in electrical communication with the segment.

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31. (twice amended) A system for testing a semiconductor component having a bumped contact comprising:  
a testing apparatus;  
an interconnect on the testing apparatus comprising:  
a substrate;  
a recess in the substrate having a size approximately equal to that of the bumped contact;  
a plurality of leads on the substrate configured to electrically engage the bumped contact, each lead

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cantilevered over the recess and configured to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped contact, each lead having a cantilever length, a width, a thickness and a modulus of elasticity selected to provide a desired spring constant, and a shape substantially matching a topography of the bumped contact; and

a connecting segment on the substrate electrically connecting the leads; and

a test circuitry in electrical communication with the connecting segment.

32. (twice amended) The system of claim 31 further comprising a conductive via in the substrate in electrical communication with the connecting segment.